

### **ABSTRACT OF THE DISCLOSURE**

The present invention provides a method for making a superabrasive composite material having the general formula  $\text{Si}_x\text{C}_y\text{N}_z$ , and tools containing such a material. In one aspect, vapor forms of Si, C, and N atoms are deposited onto a molten metal catalyst and 5 solid  $\text{Si}_x\text{C}_y\text{N}_z$  is precipitated therefrom. The composite  $\text{Si}_x\text{C}_y\text{N}_z$  materials have an interatomic structure substantially like that of silicon nitride. Such  $\text{Si}_x\text{C}_y\text{N}_z$  materials can be used to form superabrasive particles, fibers, or coatings for various tools.